

The International 22nd Puijo Symposium
"PHYSICAL EXERCISE IN CLINICAL MEDICINE –
CRITICAL APPRAISAL OF SCIENTIFIC EVIDENCE"
June 24 - 28, 2014 Kuopio, Finland

BALANCE TRAINING INCREASES HEALTH-ENHANCING PHYSICAL ACTIVITY IN ELDERLY INDIVIDUALS WITH OSTEOPOROSIS

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Objectives

To evaluate if a balance training program has effect on health enhancing physical activity, in elderly individuals with osteoporosis, self-perceived impaired balance and fear of falling.

Methods

Ninety-four community-dwelling individuals 66-86 years (mean age 75.6 ± 5.4) with osteoporosis were randomized to an intervention group, $n=64$ (63 women), or controls, $n=30$ (29 women). The intervention consisted of a 12-week balance training program (NCT01417598, ClinicalTrials.gov) with three 45-minutes group sessions per week. Exercises were progressive and specific to functional balance and incorporated dual- and multi-task exercises. Physical activity was objectively assessed with pedometer (Yamax) during one week at baseline and after intervention. Outcome variable analyzed was mean steps/day, dichotomized into: <5000 steps/day or ≥ 5000 steps/day.

Results

Sixty-eight individuals completed the study, 42 in intervention group and 26 controls. At baseline <5000 steps/day were recorded in 40 % of the individuals in both groups. After the balance training period significant differences were found in proportion of individuals taking <5000 steps/day between intervention group (31%) and controls (58%). Logistic regression showed that the odds ratio for taking ≥ 5000 steps/day at follow up was 6.2 (95% CI 1.2-32.5), $p=0.03$, for the intervention group compared to controls, adjusted for steps/day level at baseline (intention to treat procedures).

Conclusions

The results indicate that the balance training program can increase health enhancing physical activity in elderly individuals with osteoporosis, self-perceived impaired balance and fear of falling, to ≥ 5000 steps/day, which is of importance for overall health. Future analyses and long-term follow-up will further explore these effects.